

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G06F17/60 G06F17/50 G05B19/18 H05K13/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G06F G05B H05K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  
EPO-Internal, INSPEC, PAJ, COMPENDEX, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 227 711 A (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD) 31 July 2002 (2002-07-31) abstract paragraph '0084!; figures 7,8	1-14,16
A	WONSIK LEE ET AL: "A genetic optimization approach to operation of a multi-head surface-mounting machine" IEICE TRANSACTIONS ON FUNDAMENTALS OF ELECTRONICS, COMMUNICATIONS AND COMPUTER SCIENCES INST. ELECTRON. INF. & COMMUN. ENG JAPAN, vol. E83-A, no. 9, September 2000 (2000-09), pages 1748-1756, XP002340697 ISSN: 0916-8508 the whole document	1-14,16

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
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- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
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Date of the actual completion of the international search

21 October 2005

Date of mailing of the international search report

02.11.05

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 02/13590 A (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD; MAENISHI, YASUHIRO; YOSHIDA,) 14 February 2002 (2002-02-14) cited in the application the whole document	1-14, 16
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 13, 30 November 1998 (1998-11-30) & JP 10 209697 A (MATSUSHITA ELECTRIC IND CO LTD), 7 August 1998 (1998-08-07) cited in the application abstract	1-14, 16
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 05, 30 May 1997 (1997-05-30) & JP 09 018199 A (MATSUSHITA ELECTRIC IND CO LTD), 17 January 1997 (1997-01-17) cited in the application abstract	1-14, 16
A	AYOB M ET AL: "Optimisation for surface mount placement machines" INDUSTRIAL TECHNOLOGY, 2002. IEEE ICIT '02. 2002 IEEE INTERNATIONAL CONFERENCE ON DEC. 11-14, 2002, PISCATAWAY, NJ, USA, IEEE, vol. 1, 11 December 2002 (2002-12-11), pages 498-503, XP010637357 ISBN: 0-7803-7657-9 the whole document	3-10
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 449 (M-1465), 18 August 1993 (1993-08-18) & JP 05 104364 A (SANYO ELECTRIC CO LTD), 27 April 1993 (1993-04-27) abstract	11, 12

## Information on patent family members

International Application No  
PCT/JP2004/012672

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 1227711	A	31-07-2002	WO US	0124598 A1 6842974 B1		05-04-2001 18-01-2005
WO 0213590	A	14-02-2002	CN EP US	1466864 A 1350419 A2 2004073322 A1		07-01-2004 08-10-2003 15-04-2004
JP 10209697	A	07-08-1998	JP	3653911 B2		02-06-2005
JP 09018199	A	17-01-1997		NONE		
JP 05104364	A	27-04-1993	JP	2957778 B2		06-10-1999